

3. (Amended) Seeds produced by [said plant of claim 1] a non-dehiscent sesame plant, said non-dehiscent sesame plant characterized by having greater than or equal to about 65% of total amount of sesame seed in each capsule retained in unharvested capsules subjected to the shaker test, less than or equal to 10% of total amount of sesame seed in each capsule retained in capsules after mechanical harvesting, and less than or equal to about 3% of total amount of sesame seed which is released from capsules broken during mechanical harvest.

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4. (Amended) A progeny plant from [said seeds of claim 3] seeds produced by a non-dehiscent sesame plant, said ^{parent}non-dehiscent ^{parent}sesame plant characterized by having greater than or equal to about 65% of total amount of sesame seed in each capsule retained in unharvested capsules subjected to the shaker test, less than or equal to 10% of total amount of sesame seed in each capsule retained in capsules after mechanical harvesting, and less than or equal to about 3% of total amount of sesame seed which is released from capsules broken during mechanical harvest, wherein said progeny plant possesses ^{non-dehiscent}shatter resistance derived from said ^{parent}non-dehiscent sesame plant.

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6. (Amended) A progeny plant from [said plant of claim 5] a non-dehiscent sesame ^{parent}plant, said ^{parent}non-dehiscent ^{parent}sesame plant characterized by having greater than or equal to about 65% of total amount of sesame seed in each capsule retained in unharvested capsules subjected to the shaker test, less than or equal to 5% of total amount of sesame seed in each capsule retained in capsules after mechanical harvesting, and less than or equal to about 7% of total amount of sesame seed which is released from capsules broken during mechanical harvesting, wherein said progeny plant possesses ^{non-dehiscent}shatter resistance derived from said ^{parent}non-dehiscent sesame plant.

7. (Amended) Seeds produced by [said plant of claim 5] a non-dehiscent sesame plant, said non-dehiscent sesame plant characterized by having greater than or equal to about 65% of total amount of sesame seed in each capsule retained in unharvested capsules subjected to the shaker test, less than or equal to 5% of total amount of sesame seed in each capsule retained in capsules after mechanical harvesting, and less than or equal to about 7% of total amount of sesame seed which is released from capsules broken during mechanical harvesting.

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8. (Amended) A progeny plant from [said seeds of claim 7] ^{parent} ~~seeds produced by a non-dehiscent sesame plant~~, said ^{parent} ~~non-dehiscent sesame plant~~ characterized by having greater than or equal to about 65% of total amount of sesame seed in each capsule retained in unharvested capsules subjected to the shaker test, less than or equal to 5% of total amount of sesame seed in each capsule retained in capsules after mechanical harvesting, and less than or equal to about 7% of total amount of sesame seed which is released from capsules broken during mechanical harvesting, wherein said progeny plant possesses ^{non-dehiscence} ~~shatter resistance~~ derived from said ^{parent} ~~non-dehiscent sesame plant~~.

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10. (Amended) A [progency] ^{parent} ~~progeny plant~~ from [said plant of claim 9] a ^{parent} ~~non-dehiscent sesame plant~~, said ^{parent} ~~non-dehiscent sesame plant~~ characterized by having greater than or equal to about 65% of total amount of sesame seed in each capsule retained in unharvested capsules subjected to the shaker test, less than or equal to 5% of total amount of sesame seed in each capsule retained in capsules after mechanical harvesting, and less than or equal to about 3% of total amount of sesame seed which is released from capsules broken during mechanical harvesting, wherein said progeny plant possesses ^{non-dehiscence} ~~shatter resistance~~ derived from said ^{parent} ~~non-dehiscent sesame plant~~.

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11. (Amended) Seeds produced by [said plant of claim 9] a non-dehiscent sesame plant, said non-dehiscent sesame plant characterized by having greater than or equal to about 65% of total amount of sesame seed in each capsule retained in unharvested capsules subjected to the shaker test, less than or equal to 5% of total amount of sesame seed in each capsule retained in capsules after mechanical harvesting, and less than or equal to about 3% of total amount of sesame seed which is released from capsules broken during mechanical harvesting.

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12. (Amended) A progeny plant from [said seeds of claim 11] ^{parent} ~~seeds produced by a non-dehiscent sesame plant~~ characterized by having greater than or equal to about 65% of total amount of sesame seed in each capsule retained in unharvested capsules subjected to the shaker test, less than or equal to 5% of total amount of sesame seed in each capsule retained in capsules

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5 after mechanical harvesting, and less than or equal to about 3% of total amount of sesame seed which is released from capsules broken during mechanical harvesting, wherein said progeny plant possesses ^{non-dehiscence} ~~shatter resistance~~ derived from said ^{parent} ~~non-dehiscent~~ sesame plant.

30. (Amended) A [progeny] ^{parent} progeny plant from [said plant of claim 29] a ^{parent} non-dehiscent sesame plant, wherein said plant is selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number PTA-1400 PTA-1401 PTA-1402 PTA-1399 PTA-1398 and PTA-1397, respectively.

31. (Amended) Seeds produced by [said plant of claim 29] a non-dehiscent sesame plant, wherein said plant is selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number PTA-1400 PTA-1401 PTA-1402 PTA-1399 PTA-1398 and PTA-1397, respectively.

32. (Amended) A progeny plant from [said seeds of claim 31] ^{parent} seeds produced by a ^{parent} non-dehiscent sesame plant, wherein said plant is selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number PTA-1400 PTA-1401 PTA-1402 PTA-1399 PTA-1398 and PTA-1397, respectively.

33. (Amended) A non-dehiscent sesame plant which can be classified into the same phenotype group characterized by a capsule opening of slightly to barely open and moderate to good capsule placenta attachment as a plant of a sesame line selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22,

5 Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number PTA-1400 PTA-1401 PTA-1402 PTA-1399 PTA-1398 and PTA-1397, respectively.

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34. (Amended) A [progeny] ^{parent wherein said parent} progeny plant from [said plant of claim 33] a non-dehiscent sesame plant which can be classified into the same phenotype group characterized by a capsule opening of slightly to barely open and moderate to good capsule placenta attachment as a plant of a sesame line selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number ^{PTA-1400 PTA-1401 PTA-1402 PTA-1399 and PTA-1398} , respectively. ←

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35. (Amended) Seeds produced by [said plant of claim 33] a non-dehiscent sesame plant which can be classified into the same phenotype group characterized by a capsule opening of slightly to barely open and moderate to good capsule placenta attachment as a plant of a sesame line selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number ^{PTA-1400 PTA-1401 PTA-1402 PTA-1399 and PTA-1398} , respectively. ←

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36. (Amended) A progeny plant from [said seeds of claim 35] ^{parent wherein said parent plant} seeds produced by a non-dehiscent sesame plant which can be classified into the same phenotype group characterized by a capsule opening of slightly to barely open and moderate to good capsule placenta attachment as a plant of a sesame line selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number ^{PTA-1400 PTA-1401 PTA-1402 PTA-1399 and PTA-1398} , respectively. ←

37. A method of breeding non-dehiscent sesame plants comprising the steps of:

- a) crossing a first parental plant having a capsule opening of slightly to barely open with a second parental plant having moderate to good capsule placenta attachment;
- b) recovering F1 plants;
- 5 c) selfing F1 plants to produce F2 plants; and

d) selecting said F2 plants having phenotypic characteristics of a capsule opening of slightly to barely open and [having] a moderate to good capsule placenta attachment.

38. (Amended) The method of claim 37, wherein said F2 plants express the non-dehiscent phenotype [of said sesame of claim 29] characterized by a capsule opening of slightly to barely open and moderate to good capsule placenta attachment as a plant of a sesame line selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W,

5 representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number PTA-1400 PTA-1401 PTA-1402 PTA-1399 and PTA-1398 respectively.

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39. (Amended) Seed produced from [said] F2 plants [of claim 37] produced according to a method of breeding non-dehiscent sesame plants comprising the steps of:

a) crossing a first parental plant having a capsule opening of slightly to barely open with a second parental plant having moderate to good capsule placenta attachment;

5 b) recovering F1 plants;

c) selfing F1 plants to produce said F2 plants; and

d) selecting said F2 plants having phenotypic characteristics of a capsule opening of slightly to barely open and a moderate to good capsule placenta attachment.

40. (Amended) A progeny plant produced from [said] seeds [of claim 39] produced from F2 plants produced according to a method of breeding non-dehiscent sesame plants comprising the steps of:

5 a) crossing a first parental plant having a capsule opening of slightly to barely open with a second parental plant having moderate to good capsule placenta attachment;

b) recovering F1 plants;

c) selfing F1 plants to produce said F2 plants; and

d) selecting said F2 plants having phenotypic characteristics of a capsule opening of slightly to barely open and a moderate to good capsule placenta attachment.

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41. (Amended) A progeny plant produced according to [the method of claim 37] a method of breeding non-dehiscent sesame plants comprising the steps of:

a) crossing a first parental plant having a capsule opening of slightly to barely open with a second parental plant having moderate to good capsule placenta attachment;

5 b) recovering F1 plants;

c) selfing F1 plants to produce said F2 plants; and

d) selecting said F2 plants having phenotypic characteristics of a capsule opening of slightly to barely open and a moderate to good capsule placenta attachment,

wherein said progeny plant is an F₁ or F₂ plant.

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42. (Amended) Seed produced from [said] F2 plants [of claim 38] produced according to a method of breeding non-dehiscent sesame plants comprising the steps of:

a) crossing a first parental plant having a capsule opening of slightly to barely open with a second parental plant having moderate to good capsule placenta attachment;

5 b) recovering F1 plants;

c) selfing F1 plants to produce said F2 plants; and

d) selecting said F2 plants having phenotypic characteristics of a capsule opening of slightly to barely open and a moderate to good capsule placenta attachment,

wherein said F2 plant is selected from the group consisting of Sesaco 22, Sesaco 23,

10 Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number _____, and _____, respectively.

43. (Amended) A progeny plant produced from [said] seeds [of claim 42] produced from F₂ plants produced according to a method of breeding non-dehiscent sesame plants comprising the steps of:

5 a) crossing a first parental plant having a capsule opening of slightly to barely open with a second parental plant having moderate to good capsule placenta attachment;

b) recovering F1 plants;

c) selfing F1 plants to produce said F2 plants; and

d) selecting said F2 plants having phenotypic characteristics of a capsule opening of slightly to barely open and a moderate to good capsule placenta attachment.

10 wherein said F2 plant is selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number _____, and _____, respectively.

44. (Amended) An F₂ progeny plant produced according to [the method of claim 38] a method of breeding non-dehiscent sesame plants comprising the steps of:

A4 a) crossing a first parental plant having a capsule opening of slightly to barely open with a second parental plant having moderate to good capsule placenta attachment;

5 b) recovering F1 plants;

c) selfing F1 plants to produce said F2 plants; and

d) selecting said F2 plants having phenotypic characteristics of a capsule opening of slightly to barely open and a moderate to good capsule placenta attachment.

10 wherein said progeny plant is selected from the group consisting of Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W, representative seed of said Sesaco 22, Sesaco 23, Sesaco 24, 19A, and 11W having been deposited under ATCC accession number _____, and _____, respectively.

45. A method of screening for sesame plant varieties having non-dehiscence which comprises the steps of:

a) removing a representative number of capsules from said sesame plant;

b) placing said capsules in a container, said container attached to a mechanical shaker;

5 c) shaking said capsules in said container at an effective mechanical force to dislodge sesame seed from said capsules at a rate [representative of the release of seed from capsules] determined by [natural weathering] dividing the weight of seed manually removed from representative capsules harvested from sesame plants left in the field for three months after initial drydown by the weight of seed manually removed from representative capsules harvested from
10 sesame plants at initial drydown;

- d) quantitating the amount of sesame seed dislodged by shaking;
- e) quantitating the amount of sesame seed retained in said capsules after shaking;
- f) adding the amount of sesame seed dislodged by shaking and the amount of sesame seed retained in said capsules to determine the total amount of sesame seed in capsules; and
- 15 g) quantitatively comparing the amount of sesame seed dislodged by shaking to the total amount of sesame seed in capsule;

said sesame plant varieties having non-dehiscence if said sesame seed retained in said capsule after shaking is from about 65% to about 100 % of said total amount of sesame seed in capsule.

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46. (Amended) A sesame plant which passes the test [of claim 45] according to a method of screening for sesame plant varieties having non-dehiscence which comprises the steps of:

- a) removing a representative number of capsules from said sesame plant;
- 5 b) placing said capsules in a container, said container attached to a mechanical shaker;
- c) shaking said capsules in said container at an effective mechanical force to dislodge sesame seed from said capsules at a rate determined by dividing the weight of seed manually removed from representative capsules harvested from sesame plants left in the field for three months after initial drydown by the weight of seed manually removed from representative
- 10 capsules harvested from sesame plants at initial drydown;
- d) quantitating the amount of sesame seed dislodged by shaking;
- e) quantitating the amount of sesame seed retained in said capsules after shaking;
- f) adding the amount of sesame seed dislodged by shaking and the amount of sesame seed retained in said capsules to determine the total amount of sesame seed in capsules; and
- 15 g) quantitatively comparing the amount of sesame seed dislodged by shaking to the total amount of sesame seed in capsule;

said sesame plant is non-dehiscent if said sesame seed retained in said capsule after shaking is from about 65% to about 100 % of said total amount of sesame seed in capsule.